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Q FA 49 course



FA 49 Q-Course Update
to the Army G-8 and Director, PA&E

MAJ Marc Lee

24 March 2003





Purpose

To inform MG Melcher and LTG Griffin about module and lesson strategies, course content, and to solicit input.

Objectives:

- Gain input to module and lesson design
- Inspire confidence in process, progress, & products



Agenda

- **Background**
- **Lesson Development Methodologies**
- **Educational Products**
- **Q-Course Content**
 - **Pilot Calendar**
 - **Module & Lesson Strategies**
- **Student Assessment Philosophy**
- **Course Evaluation Concept**
- **Social Concept**
- **Documentation**



Why an FA 49 Qualification Course?



- **Fills educational void** by preparing ORSA officers to **apply business practices, tools and methodologies** during their **10-20th years of service** as senior analysts on Army and Joint staff
- Integrates ORSA education, ILE Core, and operational/ORSA experience to produce officers with enhanced analytical skills who understand the operational environment.

Q-Course Goals

Prepares Officers:

- For supervisory positions on senior staffs
- To establish analytical requirements
- To design and lead studies
- To establish appropriate methodologies
- To guide and review analytical work
- To apply ORSA techniques to a wide range of military issues

Mandates:

- “Keep the ‘O’ in Operations Research”

-- *ORSA Advisory Committee*

- “The strategic objective [of the Officer Education System] is to create an operationally relevant education and training system to produce more capable, confident leaders”

-- *CSA's OES*

Announcement





Background

- **Jun 01** - Q-course Strawman presented to ORSA Advisory Committee (OAC). Directed to convene PAT for concept development
- **Aug 01** - FA 49 ILE PAT convened. Q-Course conceptual design developed
- **Aug 01 - May 02** - Continued Q-Course development
- **Jun 02** - Q-course content shell vetted with PAT and OAC members
- **Aug 02** - Q-Course concept/content approved by OAC
- **Aug 02** - LTG Griffin & Mr. Bauman agree TRAC will lead and develop the Q-Course on behalf of G-8 through Jun-Jul 03 pilot
- **Sep 02** - Contract for Q-Course awarded to Cubic, funded by TRAC through pilot
- **Feb 03** - Five hour Q-Course lesson strategy/content review with Mr. Bauman
- **Feb 03** - Five hour Senior Analyst Review of lesson strategies/content
- **Mar 03** - Three hour Senior Analyst Review of lesson strategies/content



Q-Course Feedback/Input



Feedback/Input	Details
Senior Analyst Reviews	FEB 03 – IPR to Mr. Bauman and COL Treharne FEB 03 – SAR with Mr. Bauman, Mr. Resnick and Mr. Crain MAR 03 – SAR with Mr. Bauman, and Mr. Vandiver MAR 03 – Vetted Q-Course content with Mr. Bettencourt
Update Briefs	NOV 02 – MG Melcher DEC 02 – CAA DEC 02 – ATEC FEB 03 – West Point
Officer Professional Developments	DEC 02 – CAA DEC 02 – PERSCOM DEC 02 – Army G-1 FEB 03 – West Point APR 02 – MORS Education and PD Colloquium APR 02 – NPS and TRAC – Monterey MAY 02 – Current CGSOC and TRAC – FTLV



Pilot Course Instruction

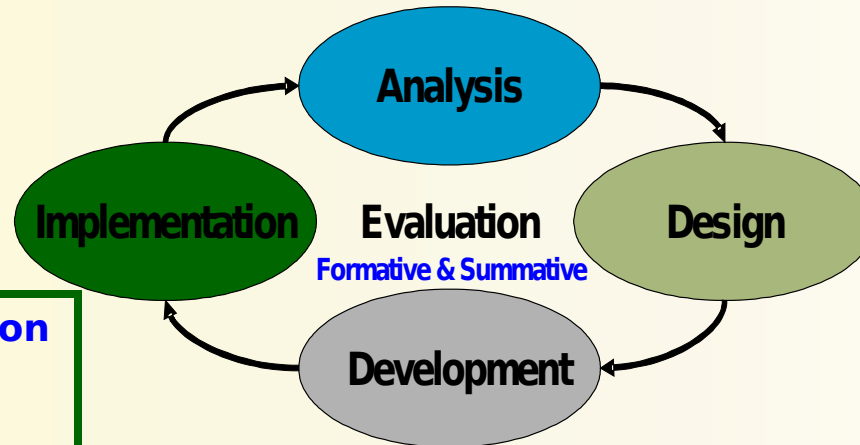
- **Total days of instruction:** 35 days
 - 8 week course
 - 5 class days/week
 - ½ day each to in/out process
 - **Pilot class size:** 15
 - **Location:** Bell Hall, Fort Leavenworth
 - Enhanced Technology Classroom
 - 2 x breakout rooms with 4 total computers
 - Computer lab access
- 1 Course Director/Instructor
 - 2 Contracted instructors
 - Guest lecturers from analytic organizations
 - Staff Groups formed with a mix of FA 49 experiences



Accountable Instructional System (TR 350-70) FA 49 course

Planned
Completed
Ongoing

- Goal Analysis
- Topic Analysis
- Target Audience Analysis
- Resource Analysis
- Milestone Plan



- Final Preparation
- Rehearse
- Implement

- Instructional Methods
- Instruction Media
- Lessons Plans/Material
- Peer Review
- Revise
- Update Milestone Plan

- Learning Objectives
- **Assessment Plan**
- Prelim Course Materials
- Course Plan
- Update Resource Analysis
- Update Milestone Plan

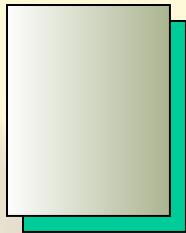


Lesson Development Methodology



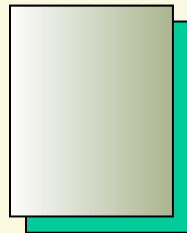
Competencies

Input



31 OCT 02
PAT Team
OAC Guidance
Cubic Needs Validation

Learning Objectives



2 DEC 02
Observable &
Measurable Behavior

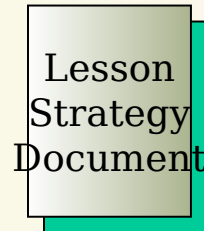
Authors
Ed Tech

Director,
TRAC
Review/Inpu

SAR
Review/Inpu

Methodology
Combination of Waterfall
&
Evolutionary Delivery

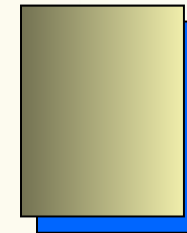
Develop Module Design



19 FEB 03
Draft Assessment Concept
Confirm Formats
Confirm Naming
Conventions

Authors
Ed Tech
Editor

Evolutionary Delivery of Drafts

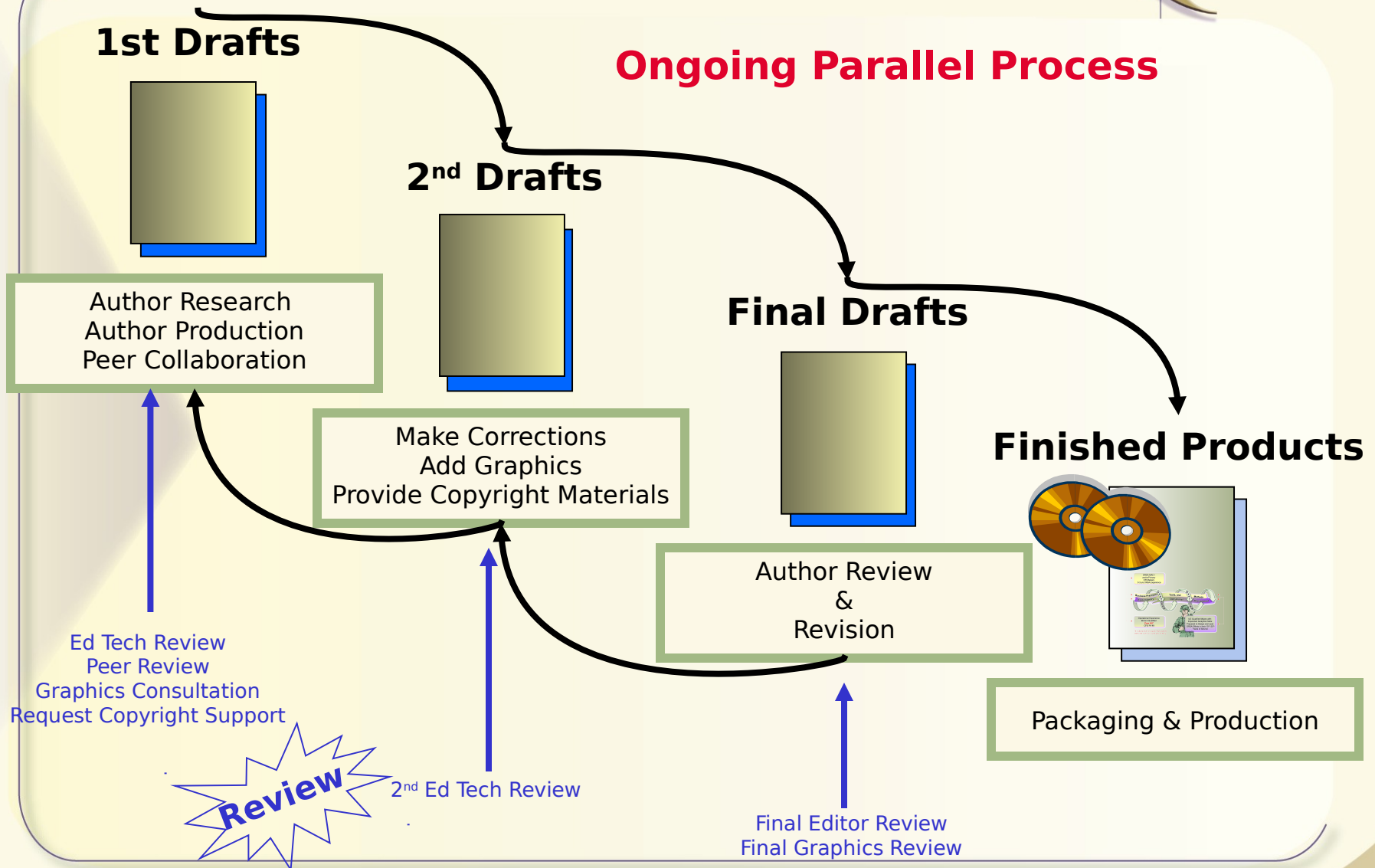


Author Research &
Production
Graphics Support
Editor/Copyright Support

Quality Assurance Throughout Development Lifecycle



Lesson Development Methodology



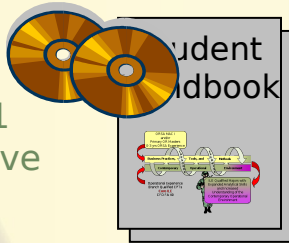


Resources Issued to Students



Administrative

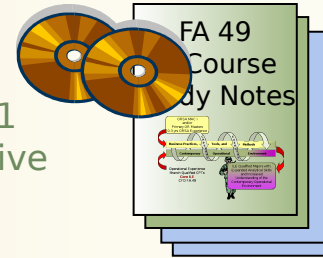
Level 1
Interactive
CD



- **Student Handbook**
 - Accountability
 - Bell Hall Access
 - Security
 - Parking
 - Location of Resources
 - Network Administration
 - Other
- **Welcome Folder**
- **Other**

Course Material

Level 1
Interactive
CD



- **Course Study Notes**
 - Advance Sheets
 - Course Readings
 - Homework
 - Case Studies
 - Selected Presentations
 - Assessment Tools
 - Other



Instructor Resources



Student Issue

Resources Issued to Students

Administrative

Level 1 Interactive CD

- **Student Handbook**
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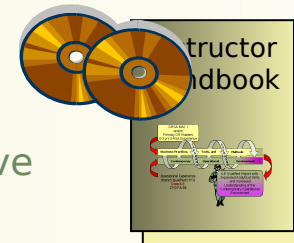
Course Material

Level 1 Interactive CD

- **Course Study Notes**
 - Advance Sheets
 - Course Readings
 - Homework
 - Case Studies
 - Selected Presentations
 - Assessment Tools
 - Other

Instruction Material

Level 1
Interactive
CD



- **Instructor Handbook**
 - Lesson Plans
 - Student Assessments
 - "Solution" Sets
 - Team Teaching Plan
 - Other



FA 49 Q-Course Curriculum



Threads of Continuity



Course Module	Days	Curriculum Content
Studies I	1.0 Day	Types of Army studies and impact of Army studies. Problem Formulation
The Role of Analysis	5.0 Days	TAA, PA&E, Test and Evaluation, Force Development Analysis, Personnel Analysis, Sister Services, Joint Analysis, Training
Operational Environment	2.5 Days	World Trends, Current Threat, Operational Environment
Transformation	6.0 Days	Joint Operational Concepts, Army Transformation Campaign Plan, Current and Stryker Forces, Objective Forces, Battle Command and C4ISR, Analysis Implications
Studies II	8.0 Days	Study Leadership, Analysis Planning, Data, Analysis Execution, Models & Simulation, Analysis Communication, Analysis Plan Development, Scenario Development
Capstone Exercise	12.5 Days	End-to-end Exercise, which integrates course content. Introduced first week of course.



Current Development Status



Course Module	Percent Complete	Risk to Completion
Studies I	85	
The Role of Analysis	66	
Operational Environment	45	
Transformation	25	
Studies II	20	
Capstone Exercise	35	

Percent Complete: Weighted average of percent complete of module lessons

- Risk:**
- Negligible risk to quality of content and delivery of material
 - Minor concerns to quality of content and delivery of material
 - Significant concerns about delivery of material



Pilot Course Calendar-June 2003



		Monday	Tuesday	Wednesday	Thursday	Friday
AM	Week 1	Inprocess/Welcome 2	Types of Army Studies and Experimentation Influence of Army Studies 3	Army Program Analysis and Evaluation 4	Force Development Analysis 5	Personnel Analysis 6
PM		Army Studies Program Types of Army Studies Problem Formulation	Total Army Analysis	Force Development Analysis	Army Test and Evaluation	Personnel Analysis
Capstone Topic Introduction						
AM	Week 2	Joint Analysis 9	Training 10	Current and Emerging World Trends 11	Operational Environment 12	Regional Threats 13
PM		Joint Operational Concepts	Capstone Preparation	Current and Emerging World Trends	Operational Environment	Capstone Preparation
AM	Week 3	Sister Services' Analytic Organizations 16	Current, Stryker and Objective Forces 17	Transformation Analysis 18	Battle Command and C4ISR 19	Battle Command and C4ISR 20
PM		Transformation Campaign Plan	Transformation Analysis	Battle Command and C4ISR	Battle Command and C4ISR	Battle Command and C4ISR
Issue Capstone Requirement						
AM	Week 4	Transformation Implication for Analysts 23	Analytic Study Framework 24	Analytic Study Framework 25	Models and Simulations 26	Analysis Plan Development 27
PM		Transformation Implication for Analysts	Analytic Study Framework	Analytic Study Framework	Analysis Communication	Analysis Plan Development



Pilot Course Calendar-July 2003



		Monday	Tuesday	Wednesday	Thursday	Friday
AM	Week 5	Scenario Development 30	Scenario Development 1	Scenario Development 2	4th of July Weekend 3	4th of July Weekend 4
PM		Scenario Development	Scenario Development	Scenario Development	4th of July Weekend	4th of July Weekend
Prepare Capstone Scenario						
AM	Week 6	Scenario Development 7	SIMEX 8	SIMEX 9	SIMEX 10	SIMEX 11
PM		Scenario Development	SIMEX	SIMEX	SIMEX	SIMEX
Execute Capstone Scenario						
AM	Week 7	Data Collection and Analysis 14	Analysis 15	Analysis 16	Analysis 17	SAG Preparation 18
PM		Data Collection and Analysis	Analysis	Analysis	Analysis	SAG Preparation
Gather Capstone data						
AM	Week 8	SAG Preparation 21	Mock SAG 22	Capstone AAR and Course AAR 23	Outprocess/Graduation 24	25
PM		Mock SAG	Mock SAG AAR	Student Counseling		
Present Capstone Product						



Module 1, Studies I



Intent:

Students will develop a general understanding of the origin, evolution, scope, and influence of the Operations Research Systems Analysis (ORSA) profession to establish a baseline for subsequent modules. Students will also be introduced to the challenges of problem formulation.

The end state is students who demonstrate an understanding of the history of Army ORSA, its various types and influences, and the regulations/guidance that apply to it.

Lessons

➤ Lesson 1

— ORSA History, Evolution, and Regulations

➤ Lesson 2

— Types and Influence of Army Analyses and Experimentation

Concept

:

Students experience a mix of lectures, outside readings, and case study discussions so they understand the scope of ORSA application within the Army.

Hours: 5 contact, 1 practical exercise, 2 preparation



Lesson 1, ORSA History, Evolution, and Regulation



Intent:

Students receive a course introduction and instruction to enhance their understanding of:

- Army and joint regulations providing program direction/guidance
- The challenges of conducting analysis problem formulation

The end state is students who can articulate the origins and evolution of Army ORSA.

Concept

Students experience a combination of lectures and practical exercise so they understand the roots of their profession and its evolution.

Activities

Lectures/Discussions

- Course Introduction
- History/Evolution of Army ORSA
- Current ORSA officer distribution
- Army analysis integrity/ethics/standards
- Intro to Army/Joint Analysis Regulation
- Intro to Problem Formulation

Practical Exercises

- Comparison of McNamara's whiz kids to today's ORSA analysts
- Analysis problem formulation

Hours: 2.5 contact, 0.5 practical
Exercise, 1 preparation



Lesson 2, Types and Influence of Army Analyses and Experimentation



Intent:

Students enhance their understanding of the different types of analysis, to include experimentation, within the Army and the joint community and their influences. The end state is students who can articulate the differences and influences of Army ORSA.

Concept

:

Students experience a combination of lectures and practical exercise so they understand the scope and influence of ORSA activity they may encounter in future ORSA assignments.

Activities

Lectures/Discussions

Types of Army analyses categorized by purpose and venue

Influence of Army analyses on the Army and the joint community

Practical Exercise

Differences between:

- Types of Army analyses
- Experimentation, testing, and

other analyses
Examination of the influence of Army analyses and extent of leadership engagement in the process

Hours: 2.5 contact, 0.5 practical
Exercise, 1 preparation



Module 2, Role of Analysis



Intent:

Students gain an understanding of the various analytic organizations in the Army, joint community, and sister services that conduct ORSA work in performing their mission, the impact of that work, and the contributions of ORSA officers/professionals to their organizations.

The end state is students who can explain the missions and impact of the various organizations and the contributions of their analysts.

Concept

:

The module includes guest lecturers from various organizations throughout the Army, joint community, and sister services. Guest lecturers present overviews of their organization that demonstrate the importance of their mission, impact of analytical effort, and the contributions by ORSA officers/professionals. Case studies and roundtable discussions are used to engage students with guest lecturers.

Lessons

➤ Lesson 1

— Total Army Analysis (TAA)

➤ Lesson 2

— Army Program Analysis and Evaluation (PA&E)

➤ Lesson 3

— Force Development Analysis

➤ Lesson 4

— Army Test and Evaluation

➤ Lesson 5

— Personnel Analysis

➤ Lesson 6

— Joint Analysis

➤ Lesson 7

— Training

➤ Lesson 8

— Sister Services' Analytic Organizations

Hours: 30 contact, 6 practical exercises, 11 preparation



Lesson 1, Total Army Analysis



Intent:

Students gain an awareness of the analytic effort conducted at the Department of Army level, including the effort from the Center for Army Analysis (CAA) and the Army staff.

The end state is students who can explain the role of CAA and the Army Staff in the TAA process.

Concept

Guest lecturer from the CAA presents an overview of the Total Army Analysis process. The guest lecturer will provide an introduction to one aspect of supporting analysis conducted by CAA and facilitate a TAA roundtable discussion.

Activities

Lectures/Discussion

- CAA overview
- TAA overview with examples of force development analysis input into the process

Practical Exercise

- TAA roundtable discussion

Hours: 4 contact, 2 preparation



Lesson 2, Army Program Analysis and Evaluation



Intent:

Students gain an understanding of the analytic effort conducted at the Army G-8 and the role of ORSA officers in Army G-8. The end state is students who can explain the value of the analytic effort conducted at Army G-8.

Concept

Guest lecturer from the Army G-8 presents an overview with examples of analysis conducted by ORSA officers and the impact of the analysis. The guest lecturer provides an introduction to the case study.

Activities

Lectures/Discussion

PA&E overview brief with introduction to the case study.

Practical Exercise

Case study which engages the students in determining the best way to package programs to achieve the Army's vision. Students present a decision brief as a result of the case study.

Hours: 3 contact, 1.5 practical exercise, 2 preparation



Lesson 3, Force Development Analysis



Intent:

Students gain an understanding of the analytic effort conducted by various analytic organizations in support of force development.

The end state is students who can explain the value of the analytic effort conducted by various organizations in support of force development.

Concept

Guest lecturer from the Office of Army G-3, TRAC, and CAA present overview briefs of their organizations explaining the missions and impact of their organizations and the contributions of their analysts. Guest lecturers participate in a force development roundtable discussion. Students prepare for the lesson with readings on CEAC.

Activities

Lectures/Discussion

- Army G-3 overview
- TRADOC overview
- AMSAA overview
- ORSA division staff experience

— Roundtable discussion on force development analysis is facilitated by the guest lecturers

Hours: 7 contact, 0.5 preparation



Lesson 4, Army Test and Evaluation



Intent:

Students gain an understanding of the test and evaluation community and the contributions of ORSA officers to Army test and evaluation. The end state is students who can describe the functions and contributions of the test and evaluation community.

Concept

Guest lecturers from the Army Test and Evaluation Command (ATEC) present an overview of the test and evaluation community and the role that ORSA officers play in test and evaluation. The guest lecturers/instructors facilitate a Land Warrior case study.

Activities

Lectures/Discussion

- ATEC overview video
- ATEC overview brief

Practical Exercise

- Case study on the Land Warrior system. Students are assigned background reading on the SEP and ORD for the Land Warrior systems. Students are broken into three groups representing DTC, OTC, and AEC. Students are asked to determine if the LW system should go to the Initial Operational Test phase before meeting all entrance criteria.

Hours: 2.5 contact, 1.5 practical exercise, 1 preparation



Lesson 5, Personnel Analysis



Intent:

Students gain an understanding of the analytic effort conducted by various analytic organizations in support of the Army's personnel management. The end state is students who can explain the value of the analytic effort conducted by various organizations in support of personnel management.

Concept

Guest lecturers from the Army G-1, Accessions Command, PERSCOM, and USMA present overview briefs of their organizations explaining the missions and impact of their organizations and the contributions of their analysts. Guest lecturers will facilitate multiple personnel management case studies.

Activities

Lectures/Discussion

- Army G-1 overview
- Accessions Command overview
- PERSCOM overview
- USMA ORSA overview

Practical Exercise

— Students break into three analysis teams and conduct three separate case studies in personnel management. Case study topics include:

- Recruiter distribution/utilization
- Latino market analysis
- Lieutenant development

Hours: 2.5 contact, 1 practical exercise,
1.5 preparation



Lesson 6, Joint Analysis



Intent:

Students gain an awareness of joint organizations that employ ORSA officers, the role of the organizations, and the contribution ORSA officers make in the joint community.

The end state is students who can describe the roles and contributions of ORSA officers serving in joint organizations.

Concept

Guest lecturers from J-8 and J-9 Experimentation present overviews. J-9 presents experimentation assessment strategy and Joint Capstone concept. Guest lecturers/ instructors facilitate practical exercises. Lesson is concluded with discussion of dilemmas facing the Army in the joint community.

Activities

Lectures/Discussion

- JFCOM/J-9 overview
- J-8 overview
- Joint experimentation assessment strategy
- Joint Capstone concept
- Dilemmas faced by Army in joint community

Practical Exercise

- Students break into three analysis teams and complete a QDR case study.

Hours: 3 contact, 1 practical exercise,
1 preparation



Lesson 7, Training



Intent:

Students gain an understanding of analysis conducted in support of training developments and the value that Combat Training Centers provide as venues for analysis. The end state is students who can describe roles and contributions ORSA organizations make in training developments and the relationship between analysis and the Combat Training Centers.

Concept

Students gain an understanding of the proper use of training events as venues for analysis through class, briefs and a case study. Included in the case study are elements of the cost effectiveness of training programs and the impact of training studies.

Students prepare for this lesson with background reading on training developments analysis.

Activities

Lectures/Discussion

- Training development analysis
- CTCs as training analysis venues

Practical Exercise

- Students break into three analysis teams and complete a case study. Topic is the integration of training and analysis with elements of cost effectiveness included in the case study.

Hours: 3 contact, 1 practical exercise,
2 preparation



Lesson 8, Sister Services' Analytic Organizations



Intent:

Students gain an awareness of sister services' organizations that perform ORSA work and Federally Funded Research and Development Centers and the contributions of these organizations.

The end state is students who can explain the missions and contributions of sister services' analytic organizations and Federally Funded Research and Development Centers.

Concept

Students gain an understanding of sister services' analytic organizations, analysis they conduct, and sister services' transformation initiatives. Guest lecturers and faculty facilitate a transformation roundtable discussion.

Students prepare for this lesson with background reading on FFRDCs and.

Activities

Lectures/Discussion

- AFSAA overview and Air Force transformation initiatives
- MCCDC overview and Marine Corps transformation initiatives
- N81 overview and Navy transformation initiatives
- Transformation roundtable discussion

Hours: 5 contact, 1 preparation



Module 3, Operational Environment



Intent:

Students gain understanding of current and emerging world trends (globalization) and concepts of the Operational Environment (OE). The end state is students who can describe the effects of world trends of globalization and identify the asymmetric threats that will effect analysis in any venue.

Concept

Students prepare for this module through readings on current and future world trends (globalization).

Students examine the world trends of globalization and the asymmetric threats and issues through discussion, lecture, practical exercise and interaction with guest lecturers.

Lessons

➤ Lesson 1

- Current and Emerging World Trends (Globalization) and Threats

➤ Lesson 2

- Operational Environment

➤ Lesson 3

- Capabilities-Based Threat

Hours: 6 contact, 6 practical exercises,
9 preparation



Lesson 1, World Trends



Intent:

Students develop an understanding of the concepts of globalization and the emerging world trends and threats that are redefining the National Security Strategy (NSS).

The end state is students who can understand and apply the concepts of current and emerging world trends and threats to address analysis requirements within any venue.

Concept

Students read a comparative analysis on globalization issues of Huntington, Toffler, and Kaplan. Additional globalization issues are explored in readings by Freidman, Manwaring, and the Hart-Rudman Report.

Students participate in globalization discussions with the intelligence community and participate apply concepts in a practical exercise.

Activities

Lectures/Discussions

Threat analysis organizations, will provide overview on mission, globalization issues and the emerging regional threats, with follow on guided discussion and impact on analytic requirements.

Practical Exercise

The PE for this lesson will set the scenario for this lesson and the following two lessons. This PE will focus on the World trend considerations that are essential in analysis of the asymmetric threat environment. The PE will require the student to properly consider the threat in problem formulation, in tool selection, and in identifying measurement space in the scenario.

Hours: 3 contact, 2 practical exercise,
3 preparation



Lesson 2, Operational Environment



Intent:

Students develop an understanding of the concepts of the operational environment at both the joint and Army level.

The end state is students who can describe the operational environment and its effects on the Army. (DOTMLPF).

Concept

Students read Army and Joint doctrine on the dimensions of the Operational Environment.

Students participate in lecture and discussions with threat community representatives and faculty, and apply the Army and Joint Operational Environment dimensions and concepts in a practical exercise.

Activities

Lectures/Discussion

Overview of the Future Operational Environment (FOE)

Practical Exercise

The previous lesson's PE continues with a current world event scenario that hypothesizes US military involvement. Students examine the OE dimensions that affect the US forces from both Joint and Army analysis perspectives and requirements to address the asymmetric environment.

Hours: 2 contact, 2 practical exercise,
3 preparation



Lesson 3, Capabilities Based Threat



Intent:

Students will describe the capabilities-based threat.
The end state is students who can adapt legacy threat models to a capabilities-based threat model utilizing Operational Environment (OE) concepts.

Concept :

Students read capabilities-based threat literature, participate in lectures and discussions with DCSINT TRADOC and Threat Directorate FLW. Students apply the capabilities-based threat concepts and analysis considerations in the PE.

Activities

➤ Lectures/Discussions

- DCSINT TRADOC and Threat Support Directorate provide an overview of how the regional threats will engage the Objective Force.

➤ Practical Exercise

- The PE for this lesson builds on the previous PE's. Students will utilize OE concepts in the prediction of threat operations and in adapting Legacy threat considerations to capabilities based threat considerations.

Hours: 1 contact, 2 practical exercise,
3 preparation



Module 4, Army Transformation



Intent:

Students understand the Army Transformation Campaign Plan (TCP) and analysis initiatives that support the Army's operational and institutional transformation from the Current and Stryker forces to the Objective Force.

The end state is students who can describe the

Army vision and the TCP and can articulate the

requirements to meet the threats of the 21st

century.

Lesson 1

— Joint Operational Concepts

Lesson 2

— The Army Transformation Campaign Plan

Lesson 3

— The Current, SBCT, and Objective Forces

Concept

:

Students prepare for this module through readings on Department of Defense and Department of the Army policies and procedures for transformation.

Students examine Army Transformation concepts with faculty and guest lecturers and through a practical exercise.

Lesson 4

— Transformation Analysis

Lesson 5

— Battle Command and C4ISR

Lesson 6

— Transformation Implications

for Analysis

Hours: 18 contact, 14.5 practical exercise,
13 preparation



Lesson 1, Joint Operational Concepts



Intent:

Students develop an understanding of joint operational concepts. The end state is students who can describe joint operational concepts and strategies that support or affect the Army Transformation Plan in addressing global challenges and changes in the Operational Environment.

Concept

:

Students read selected joint operational concepts.

Students participate in lectures, discussion, and presentations by the guest lecturers from USJFCOM Joint Experimentation Department.

Activities

Lecture/Discussion

- USJFCOM briefing and guided discussion on the joint operational issues and concepts of:
 - Operational Net Assessment (ONA)
 - Standing Joint Force Headquarters (SJFHQ)
 - Joint Interagency coordination Group (JIACG)
 - Joint Fires Integration (JFI)

Hours: 4 contact, 3 preparation



Lesson 2, The Army Transformation Campaign Plan



Intent:

Students develop an understanding of the Joint and Army Vision, the Army TCP, and the Army's operational and institutional transformation.

The end state is students who can describe the concepts of the Army's Transformation Plan and associated doctrine and summarize transformation initiatives that influence ORSA requirements.

Concept :

Students read The Army and Joint Vision, The Army Transformation Campaign Plan and supporting documentation from The Objective Force Task Force.

Students examine the Army's transformation

plan concepts and issues through guided discussion and practical exercise.

Activities

Lecture/Discussion

Guided discussion of the Army Transformation Plan concepts and issues.

Practical Exercises

- Students examine Army Transformation guidance on harnessing innovation. They recommend ways the ORSA community should support and influence the innovation efforts.

Students examine the implications and effects of the TCP concepts on DOTLMPF domains.

Hours: 0.5 contact, 2 practical exercise, 2 preparation



Lesson 3, Current, Stryker, and Objective Forces



Intent:

Students develop an understanding of the transformation of the operational force from the Current, Stryker to the Objective Force. The end state is students who can explain the Organizational and Operational differences of the Current, Stryker and Objective Forces and the analytical issues of transforming and sustaining force readiness during transition.

Concept

Students read Army Transformation doctrine and selected readings by Admiral Arthur Cebrowski, Director of Force Transformation, OSD.

Students examine the concepts, issues, schedule, and O&O structure of Transformational forces through guided discussion and practical exercise (PE).

Activities

Lecture/Discussion

- Differences in O&O, to include strengths, weaknesses, and implications of the Current, SBCT and Objective Forces.

Practical Exercises

- PE will require students to develop issues that impact on potential analytical requirements of force transformation to meet the seven Objective Force characteristics: responsive, deployable, agile, versatile, lethal, survivable and sustainable

Hours: 1 contact, 2 practical exercise, 1.5 preparation



Lesson 4, Transformation Analysis



Intent:

Students develop an understanding of Army Transformation analysis issues.
The end state is students who can describe transformation analysis requirements and methodologies to support Army Transformation.

Concept

Students read selected Joint and Army reports on transformation analysis, such as, the C4ISR Experiment, Army Transformation Wargame and other relevant analysis reports.

Students participate in guided and roundtable discussions to examine transformation analysis issues, initiatives and methodologies, augmented with a practical exercise and guest analyst presentation.

Activities

➤ Lecture/Discussion

Guided discussions on the limited guidance of transformation beginnings, transformation metrics, analysis issues, initiatives, and methodologies. Guest analyst presentation on analysis initiatives, methods, and products.

➤ Practical Exercises

— Identify difficult and critical transformation issues, metrics and lessons learned from recent analysis issues affecting deployability, personnel, and training.

Hours: 3.5 contact, 1.5 practical exercise,
1.5 preparation



Lesson 5, Battle Command and C4ISR

Intent:

Students will develop an understanding of Battle Command and C4ISR current and emerging concepts, systems and transformation.

The end state is students who can explain Battle Command and C4ISR concepts and systems, and the criticality of Battle Command and C4ISR analysis to transformation.

Concept

Students examine Battle Command and C4ISR concepts and issues through selected readings, guided discussion, and practical exercise.

Activities

Lectures/Discussion

- Battle Command concepts
- ABCS (GCCS-A, ATCCS, FBCB2) program
- Objective Force battle command concepts and supporting systems
- NATO COBP for C2 Assessment
- Implications of new Battle Command concepts

Hands-On and Practical Exercises

- Tour of the Digital Leaders Development Center and practical application of the ATCCS systems
- PE on the challenges of analyzing battle command and C4ISR

Hours: 7 contact, 6 practical exercise, 3 preparation



Lesson 6, Transformation Implications for Analysis

Intent:

Students develop an understanding of the implications of Army and Joint Transformation on:

- Army analysis organizations
- Methods and tool development and application

The end state is students who can describe the varied implications of transformation on analysis.

Concept

Students prepare by reading analysis case studies.

Students examine the implications of Army Transformation on analysis through case study and guided discussion.

Activities

➤ Lecture/Discussion

— Army Transformation analysis implications

➤ Case Study

— Implications of Army Transformation on an analysis organization and on an analysis.

Hours: 3 contact, 3 practical exercise, 2 preparation



Module 5, Studies II



Intent:

Students develop a thorough understanding of analysis leadership and the analysis process, including analysis planning, analysis execution, and analysis communication.

The end state is students who demonstrate they can function effectively as either leaders or analysts in conducting all phases of an analysis or experiment.

Concept

Students experience a mix of lectures, readings, case study discussions, and exercises designed to enhance their ability to lead and conduct analysis. The skills they acquire in this module are directly applied to executing the Capstone Exercise where they will demonstrate their understanding of the analysis process. This module's major products include the plan and the scenario for the Simulation Exercise (SIMEX).

Lessons

➤ Lesson 1

— Introduction

➤ Lesson 2

— Study Leadership

➤ Lesson 3

— Analysis Planning

➤ Lesson 4

— Data

➤ Lesson 5

— Analysis Execution

➤ Lesson 6

— Models and Simulations

➤ Lesson 7

— Analysis Communications

➤ Lesson 8

— Analysis Plan

➤ Lesson 9

— Scenario Development

Hours: 23 contact, 20.5 practical exercises,
8 preparation



Lesson 1, Introduction



Intent:

Students are introduced to the Studies II module and to the general analysis process conducted within the Army.

The end state is students who can articulate expectations of the module and an understanding of the Army analysis process.

Concept :

A combination of lecture and practical exercise enables ORSA students to understand the analysis process.

Activities

Lecture/Discussion

- Module introduction, to include expectations for participation and evaluation
- Analysis process overview

Practical Exercise:

- Starter activity to estimate percent of available resources typically required for the planning, execution, and communicating phases of analysis

Hours: 1 contact, 0.5 practical exercise, 1 preparation



Lesson 2, Study Leadership



Intent:

Students are introduced the challenges of study leadership, to include serving as a Study Director for a major analysis.

The end state is students who can articulate expectations of being a Study Director.

Concept :

A combination of lecture and practical exercise enables ORSA students to understand the study leadership challenges.

Activities

➤ Lecture/Discussion

— Principles of study leadership and challenges of being a Study Director

➤ Practical Exercise:

— Study leadership

Hours: 1 contact, 1 practical exercise,
1 preparation



Lesson 3, Analysis Planning



Intent:

Students will develop skills to enhance their ability to plan any type of Army analysis.

The end state is students who can articulate an understanding of analysis planning and demonstrate it through development of an analysis plan in a subsequent lesson.

Concept :

A combination of lecture and practical exercise is designed to enable ORSA students to understand and execute the analysis planning process.

Activities

Lectures/Discussion

- Problem Formulation
- Measures of merit development
- Scenario evaluation/selection
- Visualizing the answer and methodology development

Practical Exercise

- Problem formulation
- Measures of merit development
- Scenario selection

Hours: 2 contact, 1 practical exercises, 1 preparation



Lesson 4, Data



Intent:

Students are introduced to the critical importance of valid data to the study process and to the various sources of that data.

The end state is students who can articulate where to go to get valid data for their analysis.

Concept :

A combination of lecture and practical exercise enables ORSA students to understand the criticality of data and the sources of that data.

Activities

➤ *Lecture/Discussion*

- Data Collection Planning
- Sources of Valid Data

➤ *Practical Exercise:*

- Data Collection Planning

Hours: 1.5 contact, 0.5 practical exercise,
1 preparation



Lesson 5, Analysis Execution



Intent:

Students will develop or enhance skills to execute analysis and experimentation.

The end state is students who can articulate and demonstrate an understanding of analysis and/or experimentation processes to be applied across the full spectrum of analysis.

Concept :

A combination of lecture, discussion, and case study enables ORSA students to understand and deal with issues associated with analysis or experimentation execution.

Activities

➤ Lectures/Discussions

- Analysis integration methods
- Analysis risk management
- Experimentation lessons learned

➤ Case Study

- Case study on experimentation

Hours: 2 contact, 1 practical exercise,
1 preparation



Lesson 6, Models and Simulations



Intent:

Students examine the availability of models/tools and their appropriate application in support of Army analysis and experimentation.

The end state is students who can articulate

an understanding of how best to employ

Army models and tools.

Concept

:

A combination of lecture and practical exercise enables ORSA students to evaluate, select, link, and apply models and tools to analysis problems.

Activities

Lectures/Discussions

- Army M&S vision and strategy
- M&S policies for V&V, CM, and release
- M&S capability overview
- Model federation, linking, M-T-M, and M-E-M.
- M&S challenges (FACTs, C4ISR MAWG)
- Evaluating/selecting appropriate M&S

Practical Exercise

- M&S evaluation & selection

Hours: 2.5 contact, 1 practical exercise,
1 preparation



Lesson 7, Analysis Communication



Intent:

Students will enhance their ability to communicate effectively with all stakeholders of an analysis. The end state is students who can effectively communicate plans, status, and results of an analysis.

Concept

A combination of lectures and practical exercise is designed to enable ORSA students to determine communications requirements and to communicate effectively.

Activities

➤ Lecture/Discussion

- Determining analysis communications requirements
- How to prepare analysis reports and other written products
- Analysis presentation techniques
- Ethical analysis reporting

➤ Practical Exercise

- Communicating analysis insights, findings, and conclusions

Hours: 1.5 contact, 1 practical exercise, 0.5 preparation



Lesson 8, Analysis Plan Development



Intent:

Students develop skill in analysis planning, to include its culmination in the development and presentation of an analysis plan for the Capstone Exercise.

The end state is students who can demonstrate competency in analysis planning for Army analysis.

Concept

:

A practical exercise designed to enable ORSA students to demonstrate analysis planning skills culminates in an analysis plan briefed by each Student Analysis Team to the mock SAG.

Activities

➤ Lecture/Discussion

— Analysis planning

➤ Practical Exercise

— Capstone Analysis Plan development and briefings to mock SAG

Hours: 4 contact, 4 practical exercise,
1.5 preparation



Lesson 9, Scenario Development



Intent:

Students will enhance skills in developing/modifying a scenario for analysis use.

The end state is students who can articulate and demonstrate an understanding of the scenario requirements for an analysis and develop/modify the required scenarios.

Concept :

A combination of lecture and practical exercise is designed to enable ORSA students to modify an appropriate scenario for an analysis. Each Student Analysis Team will modify and brief a scenario for the Capstone Exercise.

Activities

➤ Lecture/Discussion

- Janus scenario availability
- Janus scenario/data requirements

➤ Practical Exercise

- Capstone scenario modification
- Capstone scenario briefings/AAR

Hours: 7 contact, 10 practical exercise, 3 preparation



Capstone Exercise



Intent:

As analysis team members and, on a rotating basis, as the analysis team leader, students analyze a relevant Army issue from problem formulation through completion. The end state is students who understand all aspects of the analysis process and can conduct analysis from start to finish with the support of a variety of tools.

Concept

Students execute all phases of a typical Army analysis either during events in the Capstone Exercise or in lessons integrated into other modules of the course. The exercise culminates in analysis results being briefed to a mock study advisory group (SAG) consisting of senior representatives of the Army analysis leadership.

Events

➤ Event 1

— Capstone Exercise and Issue

➤ Event 2

— SIMEX Scenario Data Loading

➤ Event 3

— SIMEX Conduct

➤ Event 4

— Capstone Data Collection and Analysis

➤ Event 5

— Mock SAG

Hours: 11.5 contact, 81 practical exercises,
14 preparation



Capstone Event 1

Intent:

Students are introduced to the concept for conducting the Capstone Exercise, to include the simulation exercise (SIMEX), and to the analysis issue to be addressed by the exercise .

The end state is students who can articulate the expectations for the Capstone Exercise and SIMEX.

Concept :

Students receive an overview of the concept for the Capstone Exercise and SIMEX which they will use as an evolving context for upcoming modules.

Activities

Lecture/Discussion

- Capstone Exercise and SIMEX overview
- Issuance of Capstone Exercise Issue Tasking

Hours: 0.5 contact



Capstone Event 2

Intent:

Students learn the strengths and weaknesses of Janus, load the required scenario/data (developed as part of the Studies II Module) into Janus, and otherwise prepare the model for execution.

The end state is students who understand Janus analytic capabilities and its scenario/data requirements.

Concept :

Students work closely with the Janus team to load the scenario/data and prepare the model for execution.

Activities

➤ Lectures/Discussions

— Janus SIMEX overview

➤ Practical Exercise

— Scenario/data load
— Janus SIMEX Prep

Hours: 1 contact, 8 practical exercise



Capstone Event 3

Intent:

Students will conduct the SIMEX using Janus to generate necessary data for analysis.

The end state is students who can apply the Janus model to generate appropriate data for analysis.

Concept :

Students work under the supervision of the Janus team to conduct the SIMEX using Janus to generate data for analysis.

Activities

➤ Lectures/Discussions

— None

➤ Practical Exercise

— Janus SIMEX

Hours: 28 practical exercise,
1.5 preparation



Capstone Event 4



Intent:

Students execute their collection plan and analyze data generated by Janus and other analysis tools applied to the analysis. The end state is students who demonstrate the ability to collect/generate and analyze data.

Concept :

Students work with the Janus team to collect the required data from Janus and other analysis tools applied. They analyze it to generate insights, findings and/or conclusions.

Activities

➤ Lectures/Discussions

— None

➤ Practical Exercise

- Janus data collection
- Other data collection
- Analysis of data to form integrated results

Hours: 31 practical exercise,
10.5 preparation



Capstone Event 5



Intent:

Students will experience the challenge of presenting and defending their Capstone Exercise analysis results to a mock SAG. The end state is students who can effectively articulate and defend analysis results.

Concept :

Each Student Analysis Team will present analysis results to a mock SAG consisting of senior representatives of the Army analysis community.

Activities

➤ Lectures/Discussion

— None

➤ Practical Exercise

- Prepare and deliver Mock SAG Readahead
- Prepare and present results to mock SAG
- Mock SAG AAR

Hours: 10 contact, 14 practical exercises,
2 preparation



Q-Course Capstone



Capstone Exercise Analysis Issue

Issue Selected:

- Analysis of potential PIPs to the SBCT. Potential sub-issues include the cost, affordability, sustainability, deployability, effectiveness, and personnel impacts of each alternative. Effectiveness will be examined in Janus using modifications to one existing Caspian Sea scenario.

Issue Selection Criteria Applied:

- Related to Army Transformation
- An actual issue of some interest
- Use of Janus as an appropriate tool
- Janus scenario available for modification
- Janus terrain available
- Relatively simple but certainly not trivial



Student Assessment Philosophy



Goal: Provide feedback that helps students grow as analysts and leaders rather than simply determining student grades for the course

Concept

:

ORSA skills + leader behaviors = competency-based course learning objectives.

Not yet competent



competent



exemplary.

Faculty advisor assesses individual, team, and team leader behaviors and products.

Methodology

:

- Individual assessment based on contributions/performance
 - Discussion
 - Group collaboration
 - Homework
- Qualitative assessment of team's problem-solving behaviors and products
 - Problem formulation
 - Analysis plan
 - Scenario development
 - Briefings
- 3-way leader assessment
 - Faculty advisor, peer, self



Q-Course Evaluation Concept



Goal: Improve Q-Course with each iteration by verifying curriculum, methodology, and instruction to optimize student learning.

Evaluate curriculum content:

— FAS test:

Feasible for 8-week limitation, desired daily contact time, and available resources.

Acceptable in meeting course goals for student learning.

Suitable for student entry level.

— OES test: FSO, ambiguous problems to solve challenges that help students develop self-assessment and adaptability skills appropriately linked to Intermediate Level Education (ILE).

Evaluate delivery:

- Effective use of experiential learning concept.
- Instructor effectiveness and instructor lessons learned.

Evaluate guest presentations:

- Added value to the course?
- Engaged students with problems and activities vice lecture?
- Linked content appropriately to course design and/or intent?

Student feedback:

- Formative and summative feedback through hotwashes, AARs, and surveys.



Social Activities



Intent:

The intent of social activities is to enhance team building, interaction with guest lecturers, and create enjoyable and memorable experiences.

Concept

Planned activities include luncheons with guest lecturers, an evening social, golf tournament, and a faculty-sponsored barbecue. In addition to faculty planned activities, students will appoint a social chair to coordinate the group's social activities.

Planned

- *Luncheons at FCC x 2*
- *Evening social*
- *Faculty sponsored barbecue*
- *Golf tournament*



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